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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/666,609

09/18/2003

Chien-Hua Chen

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11/02/2004

HEWLETT-PACKARD COMPANY

Intellectual Property Administration

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EXAMINER

OEN, WILLIAM L

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/666,609	Applicant(s) CHEN, CHIEN-HUA	
	Examiner William L Oen	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 8-45,50-52,55 and 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,46-49,53,54 and 57-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/12/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 57 is rejected under 35 U.S.C. 102(b) as being anticipated by Shkedi (U.S. Patent No. 4,689,999).

Shkedi explicitly teaches, for example in Figures 1 and 2 and in columns 4-8, all of the essential features of the instant invention including a pressure sensor with a first membrane 14 that flexes in response to pressure, a reference cavity covered by the first membrane, the reference cavity 132 containing a vacuum (see, e.g., col. 7 lines 42-50) and a second membrane (16 and/or 18) adjacent to said first membrane, wherein the reference cavity and the second membrane are disposed on opposite sides of the first membrane 14, the first and second membranes form a capacitor having a capacitance that varies in accordance with the flexing of the first membrane and the pressure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7, 46-49, 53, 54 and 57-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shkedi (U.S. Patent No. 4,689,999) in view of Provenzano et al. (U.S. Patent No. 5,381,299).

Shkedi explicitly teaches, for example in Figures 1 and 2 and in columns 4-8, all of the essential features of the instant invention including a capacitive type pressure sensor with a first membrane 14 that flexes in response to pressure, a reference cavity covered by the first membrane, the reference cavity 132 containing a vacuum (see, e.g., col. 7 lines 42-50) and a second membrane (16 and/or 18) adjacent to said first membrane, wherein the reference cavity and the second membrane are disposed on opposite sides of the first membrane 14, the first and second membranes form a

capacitor having a capacitance that varies in accordance with the flexing of the first membrane and the pressure.

It is noted that Shkedi lacks an explicit teaching of a *curved* membrane per se. Provenzano et al, in the same field of endeavor as Shkedi, explicitly teaches a capacitive type pressure sensor arrangement wherein membrane 104 is curved. Shkedi also teaches the claimed arrangement of this membrane with respect to the reference vacuum chamber 132 (see, e.g., col. 7, lines 42-50). In view of this teaching by Provenzano et al, and because it would have been a simple and expedient modification at the time of the invention, it would have been obvious to one having ordinary skill in the art at the time of the invention to have shaped either the first or second membrane of Shkedi to have a curved shape, if desired. To have formed the first and second membranes of Shkedi to be bonded to substrates is considered to have been a mere matter of obvious design choice clearly within the purview of one having ordinary skill in the art at the time of the invention, if desired.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L Oen whose telephone number is (571)272-2186. The examiner can normally be reached on 10:30 am - 9:00 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571)272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William L. Oen
Primary Examiner
Art Unit 2855

WL Oen
October 29, 2004